

VOZNYI, G. F.

VOZNYI, G.F., referent

Significance of the properties of water used in the wet preparation  
of coal (from "Glückauf," 23-24, 1955). Koks i khim.no.9:62-64 '57.  
(MIRA 10:12)

(Coal preparation)

(Water)

OMEL'CHENKO, A.A., inzh.; VOZNYI, N.I., inzh.

Device used in drilling holes for insect traps on sugar beet fields.  
Trakt. 1 sel'khozmas. no.4:35-36 Ap '59.

(MIRA 12:5)

(Weevils) (Agricultural machinery)

L 25715-66 EWT(d)/EWP(h)/EWP(1)

ACC NR: AP6004224 (A) SOURCE CODE: UR/0331/65/000/011/0010/0011

AUTHOR: Voznyy, I.

ORG: Vyatles

TITLE: A new drive for rope conveyor 14

SOURCE: Lesnaya promyshlennost', no. 11, 1965, 10-11

TOPIC TAGS: conveying equipment, forestry, electric motor

ABSTRACT: An improved drive for a timber sorting conveyor is described. The new drive was designed and prepared by a repair shop of Vyatles at their Turun'insk forest station. The drive consisted of an electric motor and a gear assembly driving a sheave by pushing its sprocket rims. The sprockets can be coupled with crossbars attached to the rope. The sheave groove was equipped with a rubber band padding to assure a friction contact between the sheave and the rope. The arrangement of the drive and the attachment of crossbars to the rope were illustrated. The position of the rope and deforma-

Card 1/2

UDC: 621.86

L 25715-66

ACC NR: AP6004224

tion of rubber band under light and heavy loads was also illustrated. Old used tires were used for preparing the rubber band while the crossbars were made of rail joint plates. The rope conveyor was 260 m long. Orig. art. has: 4 figures.

SUB CODE: 13,04 / SUBM DATE: None / ORIG REF: 000 / OTH REF: 000

Card 2/2 *Jo*

AVDOS'YEV, B.S.; VOZNYI, N.Ye.

Eliminating Dactylogyrus infection in a fish rearing pond.  
Veterinaria 40 no.8:55-56 Ag '63.

(MIRA 17:10)

1. L'vovskaya opyt'naya stantsiya rybovodstva.

VOZNYI, P.S., inzh.

New ocean-going lumber freighter. Sudostroenie 25 no.6:1-5  
Je '59. (MIRA 12:9)  
(Freighters) (Lumber--Transportation)

VOZNYI, V.

~~VOZNYI, V.~~  
We turn out high-quality production. Prom.koop.no.11:7 E '56.  
(MLRA 9:12)

1. Brigadir stolyarov novoodesskoy arteli "Mebel'shchik,"  
Nikolayevskaya oblast'.  
(Novaya Odessa District--Furniture industry)

VOZNYI, V.P.; VIZNER, P.F., nauchnyy sotrudnik; MESHKALLO, V.M.

Collector of lumbering waste and noncommercial wood in cleaning  
the bed of reservoirs. Trudy VSNIP Lesdrev no.8:14-21 '61.  
(MIRA 18:11)

1. Nachal'nik laboratorii mekhanizatsii lesosechnykh rabot  
Vostochno-Sibirskogo nauchno-issledovatel'skogo i proyektnogo  
instituta lesnoy i derevobrabatyvayushchey promyshlennosti  
(for Voznyy).



VOZOBULE, Josef, inz.

How we enjoy the T 3 streetcars. Siln doprava 12 no. 3:  
2-4 Mr '64.

1. Dopravni podnik, Praha.

VOZOBULE, Josef, inz.

How we enjoy the T 3 streetcars. Siln doprava 12 no. 3:  
2-4 Mr '64.

1. Dopravni podnik, Praha.

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

1ST AND 2ND CODES

PROCESSES AND PROPERTIES INDEX

2

2292. MEASUREMENT AND PLOTTING OF GAS PIPING SYSTEM.  
ESCAPE OF GAS. Vrsobule, J. (Paliva a Voda, 20  
Nov. 1947, 27, 272-6). The authors give directions  
for measuring and plotting gas piping systems, and  
detecting escape of gas into rooms.

COMMON ELEMENTS

COMMON VARIABLE INDEX

ASTM-SLA METALLURGICAL LITERATURE CLASSIFICATION

STANDARD

GROUP

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

REVISION

DATE

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

1ST AND 2ND CODES																										3RD AND 4TH CODES																									
PROCESSES AND PROPERTIES																										MATERIALS																									
<p>The use of refractory light-weight brick from frothed                      slag for lining a periodic kiln to burn fireclay brick at the                      1 October Anniversary plant. E. I. Yuzonin, M. S.                      Gendel and N. F. Lesnyak. <i>Genekopye</i> 7, 701-4 (1960).                      F. R. Stelamovsky</p>																																																			
ASH-SLA METALLURGICAL LITERATURE CLASSIFICATION																										USONI BOWATV																									
USONI STUBBLYN																										USONI BOWATV																									

VOZOV, A.

The state farm for cultivation of ornamental plants. Zhil.-kom.  
khos. 4 no.7:15-17 '54. (MLRA 8:1)

1. Direktor sovkhosa "Yuzhnyye kul'tury."  
(Adler--Plants, Ornamental)

VOZOV, N., aspirant

In Penza Province. Zashch. rast. ot vred. i bol. 10 no.6:4-5 '65.  
(MIRA 18:7)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut zashchity rasteniy.

VOZOVAYA, N. A.

VOZOVAYA, N. A.: "The paradoxical course of childbirth with severe  
extragenital infections." Min Health RSFSR. Bashkir State  
Medical Inst imeni XVth Anniversar' VLESM. Ufa, 1956.  
(Dissertation for the Degree of Candidate in Medical Sciences).

SO: Knizhnaya letonis', No 23, 1956

MADANOV, P.V., prof.; VOYKIN, L.M., assistant; VOZOVIK, I.S., inzh.

Plow attachment for the placement of mineral fertilizers at the  
time of plowing. Zemledelie 7 no.12:80-81 D '59.  
(MIRA 13:3)

1. Kazanskiy gosudarstvennyy universitet imeni V.I.Ul'yanova-  
Lenina (for Madanov, Voykin). 2. Kazanskaya gosudarstvennaya sel'-  
skokhozyaystvennaya opytная stantsiya (for Vozovik).  
(Plows--Attachments) (Fertilizer spreaders)



VOZOVIK, Yu.I.

Floating landslides in the eastern part of the Fergana Valley.

Vest. Mosk. un. Ser. 5: Geog. 19 no.2:80-81 Mr-Ap '64.  
(MIRA 17:4)



VCEVICHENIKTY, G. A.

USSR/Chemistry - Anod's, Corrosion Apr 49  
Chemistry - Corrosion, Measurement of

"Anode Solution of Corroded Metals," G. A. Vozvi-  
zhenskiy, G. P. Dezider yev, V. A. Dmitriyev, Chem  
Inst Imeni A. Ye. Arbuzov, Kazan Affiliate, Acad  
Sci USSR, 3 pp.

"Dokl Ak Nauk SSSR" Vol LXV, No 5

Authors previously advanced a theory representing  
process of anode solution as a process of electro-  
decrystallization. According to this, surface of  
a metal which has undergone anode dissolving must  
have a "corroded texture" - a regular, although  
invisible, corrosion. Checks this theory experi-

39/49TL6

USSR/Chemistry (Contd)

Apr 49

mentally for copper, brass, and duraluminum by  
measuring luster, considered as a function of  
surface texture. Submitted by Acad A. Ye. Arbuzov  
12 Feb 49.

39/49TL6

VOZVYSHAYEV, L.

New food for blast furnaces. Znan. sila 36 no.12:6 D '61.  
(Coke) (MIRA 15:1)

AUTHOR: Vozvyshayev, L.

SOV/4-59-1-5/42

TITLE: Give Way to Direct Current! (Dorogu postoyannomu toku)

PERIODICAL: Znaniye - Sila, 1959, Nr 1, pp 6 - 8 (USSR)

ABSTRACT: As the demand for electricity is increasing, and the current supplied by the Moscow plants of small capacity is insufficient and expensive, electric energy of 400,000 volt is lately being supplied from the Volzhskaya GES imeni Lenina (Volga GES). So far it has been impossible to transmit current of a similar voltage over such a long distance. Because of the loss in current sustained in long distance transmission, the line Kuybyshev - Moscow had to be constructed in a new manner. Instead of 3 wires, which are usually used for the transmission of a three-phase alternating current, 9 wires were taken. Only the application of numerous technical improvements cut down the loss of current. But transmission over a distance exceeding 1,000 to 2,000 km is unprofitable. It is cheaper to build power plants on the spot, and to supply it with fuel. The author mentions the Russian engineer M.O. Dolivo-Dobrovolskiy who foresaw the possibility of transmitting direct current of superhigh voltage over

Card 1/3

Give Way to Direct Current!

SOV/4-59-1-5/42

very long distances. At the outskirts of Moscow there is an electric sub-station from where a voltage of 200,000 volt is transmitted in direct current to Moscow. The plant contains the laboratories of the Moscow Branch of the Nauchno-issledovatel'skiy institut postoyannogo toka (Scientific-Research Institute of Direct Current). A line of direct current connects Moscow with Kashira - a distance somewhat over 200 km. During the 8 years of exploitation of the line, the advantages of transmitting direct current over long distances became evident. As only one or two wires are required for direct current, the savings in expensive wire are considerable, and if the high-voltage cable can be placed under ground, even the masts, requiring enormous quantities of metal, become superfluous. There are other advantages when transmitting direct current. The author then explains the process of transforming a/c into d/c and vice versa. In this connection, the author states that until recently it was considered that the voltage in the valve is limited to 10 kilovolt. At present, tests are being made with valves designed for a load exceeding that of the theoreticians by about 10 times.

Card 2/3

Give Way to Direct Current!

SOV/4-59-1-5/42

The tests are being made at the Vsesoyuznyy elektrotekhnicheskii institut imeni V.I. Lenina (All-Union Electro-Technical Institute imeni V.I. Lenin). In conclusion, the author summarizes the advantages of connecting individual power engineering systems by lines of direct current. The first transmitting line of d/c to operate, will be the one connecting the Stalingrad GES with the Donbass, a distance of 470 km. The first line with a voltage of 800,000 volt will start working in 1961. There are 3 drawings.

Card 3/3

VOZVYSHAYEV, L.

On the longest voyage. Znan.sila 36 no.3:5-7 Mr '61. (MIRA 14:3)  
(Space flight to Venus)



VOZVYSHAYEV, I.

Revisions brought about in a single decade. Znan.sila 35 no.10:  
22 0'60.

(MIRA 13:11)

(Automatic control) (Tunguska Valley--Meteorites)

(Tunguska Valley--Comets)

VOZVYSHAYEV, L.

Make way for direct current transmission. Znan.sila 34 no.1:  
6-8 Ja '59. (MIRA 12:2)  
(Electric power distribution--Direct current)

VOZVYSHAYEV, L.

Roads over roads. Znan.sila 35 no.7:11-12 J1 '60.

(MIRA 13:7)

(Railroads, Suspended)

VOZVYSHAYEV, I.

Marked sand. Znan. sila 33 no.8:1-2 Ag'58.  
(Hydrography)

(MIRA 11:11)

AUTHOR: Vozvyshayev, L. SOV-A-56-3-3/25

TITLE: Marked Sands (Mechenyye peski)

PERIODICAL: Znaniye-sila, 1958, Nr 8, pp 1-2 (USSR)

ABSTRACT: Soviet scientists are coloring sands at the bottom of seas and lakes in order to fix the direction and speed moving sand and to predict the formation of sandbanks. This method can be used not only in hydrotechnical construction, but also in road building and canal construction. The Laboratoriya karbotsiklicheskikh soyedineniy Instituta organicheskoy khimii imeni N.D. Zelinskogo Akademii nauk SSSR (Carbocyclic Compound Laboratory of the Institute of Organic Chemistry imeni N.D. Zelinskiy of the Academy of Sciences) is carrying out investigations on the movement of sands. There is one drawing.

1. Colored sand--Applications 2. Sand--Motion

Card 1/1

VOZVISHAYEVA, L.I., starshiy nauchnyy sotrudnik

Economic efficiency of the introduction of shuttleless looms in  
the textile industry. Tekst.prom. 25 no.2:48-52 P 125.

(MIRA 1804)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut legkogo i  
tekstil'nogo mashinostroyeniya.

VOZVYSHAYEVA, L.V.; BLYUMENFEL'D, L.A.

Effect of ionized side groups on magnetic properties of  
ribonucleic acid. Biofizika 5 no. 5:579-581 '60. (MIRA 13:10)

1. Institut khimicheskoy fiziki AN SSSR, Moskva.  
(NUCLEIC ACIDS—MAGNETIC PROPERTIES)  
(RADIATION—PHYSIOLOGICAL EFFECT)

VOZYAKOV, V.

VOZYAEV, V.; SHAROV, N.

Fire prevention in German Democratic Republic. Posh.delo 3  
no.5:29-30 My '57. (MERA 10:7)  
(Germany, East--Fire prevention)



VOZYAKOV, V.

SABUROV, A.; TARASOV-AGALAKOV, N.; VOZYAKOV, V.; ZEMSKIY, M.; TROITSKIY, I.;  
RUBIN, A.; OBUKHOV, F.; POLOSUKHIN, M.; REMIZOV, A.; SHALIN, V.;  
MIKHAYLOV, F.

Konstantin Moiseevich IAichkov; obituary. Pozh.delo 3 No.6:11  
Je. '57. (MLRA 10:7)

(IAichkov, Konstantin Moiseevich, 1873-1957)

VOZYAKOV, V.A.

Results and outlooks. Pozh. delo 5 no.10:12-13 0 '59.  
(MIRA 13:2)

1.Glavnyy sud'ya XII Vsesoyuznykh sorevnovaniy po pozharно-  
prikladnomu sportu.

(Firemen)

(Physical education and training)

VOZYKA, T.A.

Automatic submerged arc welding of large steel castings. Proisv.  
opyt v obl. svar. no.1:72-76 '56. (MLRA 9:10)

(Steel castings--Welding) (Electric welding)

FERBERG, Aron Solomonovich; VOZYAKOV, A., otv. r d<sup>l</sup>

[Economic work of the Construction Bank; bank and the  
economics of construction] Ekonomicheskaya rabota Stroi-  
banka; bank i ekonomika stroitel'stva, Moskva, Izd-vo  
"Finansy," 1964. 175 p. (MIRA 17:6)

DUSHEN'KINA, Svetlana Viktorovna; SYSOYEV, Boris Ivanovich; CHISTYAKOV, Maksim Tikhonovich; VOZYAKOV, A., otv. red.; NADEZHDA, A., red. izd-va; LEBEDEV, A., tekhn. red.

[Financing of planning and engineering work] Finansirovanie proektnykh i izyskatel'skikh rabot. Moskva, Gosfinizdat, 1961. 84 p.  
(MIRA 14:10)

(Construction industry--Finance)

VOZYAKOV, V.

Prevention of fires caused by petroleum lamps. Pozh.delo 3 ,  
no.2:5-6 P '57. (MIRA 10:4  
(Fire prevention) (Lamps)

*Vozjakovskaya, Iu. M.*

USSR /Microbiology. Soil Microbiology.

F-3

Abs Jour: Referat. Zh.-Biol., No. 9, 1957, 35612

Author : Khudiakov, Ia., Vozjakovskaya, Iu. M.

Title : The Microflora of Wheat Roots and Several of  
its Properties

Orig Pub: Mikrobiologiya, 1956, 25, No. 2, 184-190

Abstract: A study was made of the specific composition of the microflora living on the roots of winter wheat washed out of the soil in the phase of milling ripeness or with ears. The microflora of the wheat roots was represented by 41 species, and contained representatives of the genera, Pseudomonas, Bacterium, Mycobacterium, Chromobacterium; 25 species of micro-organisms live not only on the roots but also on the above-ground parts of the plant, i.e., they are

Card 1/2

USSR /Microbiology. Soil Microbiology.

F-3

Abs Jour: Referat. Zh.-Biol., No. 9, 1957, 35612

epiphytic microorganisms. Several strains of 10 species of root microflora can assimilate nitrogen from the atmosphere; a series of strains of 14 species can utilize organic compounds of phosphorus; 4 species are capable of creating factors of growth which speed up the growth of the roots.

Card 2/2



MAIUREVICH, S.; VOZ'YANSKIY, N.; FREDULOV, A.

Using circular strips for retreading tires. Avt. transp. 36 no.2:  
28 F '58. (MIRA 11:2)

(Tires, Rubber--Repairing)

VOZYKOV, V. A.

Eleventh All-Union competition in sports related to the training  
of firemen; a great event in the sports life of fire departments.  
Pozh.delo 3 no.11:23 N '57. (MIRA 10:11)  
(Sports) (Fire departments)

RAVIKOVICH, I.M.; BRAGIN, Yu.S.; KHUDOROZHNIKOV, I.P.; MAYZEL', G.M.; STARIKOV, M.A.; GROSHEV, M.Ya.; BUTIVCHENKO, V.N.; Prinizali uchastiye:  
ANTOSHECHKIN, M.P.; MARKOV, V.N.; CHEKH, N.A.; OBUKHOVA, E.N.;  
VOZZHAYEV, A.S.

Production of ferrovanadium sinter at the Lebyazh'ye sintering  
plant. Stal' 25 no.6:484-486 Je '65. (MIRA 18:6)

1. Nizhne-Tagil'skiy metallurgicheskiy kombinat.

VOZZHAYEVA, A. P.

Vozzhayeva, A. P., Avakov, A. L., and Yevsyukov, A. M. V. - "On the problem of  
Widal's analytic reaction", *Trudy Astrakh. gos. med. in-ta*, Vol. IX, 1944, p. 134-  
36.

SO: U-3642, 11 March 53, (Letopis 'Zhurnal 'nykh Statey, No. 8, 1949).

ACC NR: AP6031636

(A)

SOURCE CODE: UR/0297/66/011/009/0840/0843

AUTHOR: Ferdinand, Ya. M.; Redechkina, Z. P.; Vozzhayeva, A. P.; Vetlugina, K. F.; Vevyur, N. A.; Zhigul'skaya, I. F. Borodzdenko, I. F.

ORG: Rostov-na Donu Scientific Research Institute of Epidemiology, Microbiology, and Hygiene (Rostovskiy-na-Donu nauchno-issledovatel'skiy institut epidemiologii, microbiologii i gigiyeny); Department of Infectious Diseases, Astrakhan Medical Institute (kafedra infektsionnykh bolezney Astrakhanskogo meditsinskogo instituta); Department of Infectious Diseases, Saratov Medical Institute (kafedra infektsionnykh bolezney Saratovskogo meditsinskogo instituta); Hospital No. 10, Volgograd (bol'nitsa No. 10)

TITLE: Antibiotic therapy and chronic typhoid fever carriers

SOURCE: Antibiotiki, v. 11, no. 9, 1966, 840-843

TOPIC TAGS: typhoid fever, typhoid carrier, antibiotic ~~therapy~~, infective disease, *drug treatment*

ABSTRACT: Antibiotic treatment does not eliminate all typhoid carriers, but the treatment is justified since the highest percent of carriers was found among untreated patients. Administration of antibiotics until the third week of convalescence sharply reduces the number of carriers. [WA-50; CBE No. 12]

SUB CODE: 06/ SUBM DATE: 05Nov65/ ORIG REF: 008/ OTH REF: 001/  
Card 1/1 UDC: 616.927-085.779.931-07:616-008.97 (Bac. typhi)

VOZZHENIKOV, G.S.

Use of artificial radioactivity in prospecting for manganese and  
copper ores. Trudy Sver.gor.inst. no.34:152-164 '59.  
(MIRA 13:5)

(Manganese ores--Analysis)

(Copper ores--Analysis)

(Prospecting--Geophysical methods)

VOZZHENIKOV, G. S.

Exposure to radiation, interval and activation time logging. Izv.  
vys. ucheb. zav.; geol. 1 razv. 3 no.8:86-91 Ag '60. (MIRA 13:10)

1. Sverdlovskiy gornyy institut.  
(Logging (Geology))

S/169/61/000/012/034/089  
D228/D305

AUTHOR: Vozzhenikov, G. S.

TITLE: The question of using artificial radioactivity  
when prospecting for manganese and copper ores

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 12, 1961,  
42, abstract 12A406 (Tr. Sverdl. gorn. in-ta,  
1959, no. 34, 152-164)

TEXT: The results of theoretical and experimental research,  
undertaken to study the possibilities of the method of induced  
activity for the quantitative determinations of Mn and Cu  
in ores, are stated. The calculations and modeling showed that  
5 - 10 hours after the end of the irradiation, the copper iso-  
tope  $\text{Cu}^{64}$ , which is formed during the activation of ore by a  
neutron source with an activity of 3 curies for 10 - 20 hr.,  
gave considerable activity (13 imp./min. per 1% Cu for the

Card 1/2



The question of using...

S/169/61/000/012/034/089  
D228/D305

BC-4 (VS-4) counter), exceeding by several tens of times the summary activity caused by the activation of separate isotopes. The intensity of the induced activity is directly proportional to the percentage content of copper in the ore, which creates the possibility of determining the copper content of ore during borehole logging with a relative error of about 20%. Artificial radioactivity of high intensity (25 imp./min. per 1% Mn for the MC-4 (MS-4) counter), caused almost entirely by the artificially radioactive isotope  $Mn^{56}$  30 min. after the end of irradiation, is similarly induced on the activation of manganese ores for 4 - 5 hr. by means of a neutron source with an activity of  $\sim 0.5$  curies. The relative precision of determining Mn in ore bodies perforated by corelessly-drilled holes amounts to 3 - 10%. The determinational error may be decreased by increasing the source activity and exposition of the measurements. [Abstracter's note: Complete translation.]

Card 2/2

VOZZHENIKOV, Gennadiy Sergeevich

[Activation analysis in mining geophysics] Aktivatsionnyi analiz v rudnoi geofizike. Moskva, Nedra, 1965. 69 p. (MIRA 18:12)

VOZZHENIKOV, G. S.

Cand Tech Sci - (diss) "Besker determination of copper in wells." Sverdlovsk, 1961. 22 pp with diagrams; (Ministry of Higher and Secondary Specialist Education RSFSR, Leningrad Orders of Lenin and Labor Red Banner Mining Inst imeni G. V. Plekhanov); 150 copies; price not given; list of author's works at end of text; (KL, 7-61 sup, 233)

L 0933-65 EPFIC: EPA's -2 EWP(s) / EWT (a) / EWP(b) / EWP(t) Pc-4/Pr-4/Pt-10/  
Pad IJP(c)/RPL RM/JD/1M

ACCESSION NR: AP5004602

S/0020/65/160/002/0405/0408

AUTHOR: Terent'yev, A. P. (Corresponding member AN SSSR); Vozzhennikov, V. M.;  
Kolninov, O. V.; Zvonkovz, Z. V.; Rukhadze, Ye. G.; Glushkova, V. P.; Berezkin,  
V. V.

TITLE: Semiconducting and optical properties of copper, nickel, zinc, and cadmium  
dithiocarbamates

SOURCE: AN SSSR. Doklady, v. 160, no. 2, 1965, 405-408

TOPIC TAGS: copper dithiocarbamate, nickel dithiocarbamate, zinc dithiocarbamate,  
cadmium dithiocarbamate, dithiocarbamate semiconducting property, dithiocarbamate  
optical property, organic semiconductor, chelate electrical property, polychelate con-  
ductivity, activation energy

ABSTRACT: This paper is part of a study of a series of chelates and polychelates aimed  
at determining the dependence of their electrical properties on their atomic structure and  
nature of their chemical bonds: this in turn is vital in the synthesis of...

Card 1/2

L 29933-65

ACCESSION NR: AP5004802

several types of electronic transitions were established, and the thermal activation energy  $E_{\text{therm}}$  was compared with the optical activation energy  $E_{\text{opt}}$ . It was concluded that the semiconducting parameters are determined primarily by the nature of the metal - ligand chemical bond, and not by the crystal structure or superstructure. Orig. art. has: 3 figures, 1 table and 2 formulas.

ASSOCIATION: Fiziko-khimicheskiy institut im. L. Ya. Karpova (Physicochemical institute); Moskovskiy gosudarstvennyy universitet im. M.V. Lomonosova (Moscow state university)

SUBMITTED: 04Aug64

ENCL: 00

SUB CODE: OC, EM

NO REF SOV: 004

OTHER: 900

Card 2/2

TERENT'YEV, A.P.; RODE, V.V.; RUKHADZE, Ye.G.; VOZZHENNIKOV, V.M.;  
BADZHADZE, L.I.

Electric conductivity of chelate polymers. Dokl. AN SSSR 140  
no.5:1093-1095 0 '61. (MIRA 15:2)

1. Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova  
i Fiziko-khimicheskiy institut im. L.Ya. Karpova.
2. Chlen-korrespondent AN SSSR (for Terent'yev).  
(Chelates—Electric properties)

15.8540

29120  
S/020/61/140/005/016/022  
B103/B110

AUTHORS: Terent'yev, A. P., Corresponding Member AS USSR, Rode, V. V.,  
Rukhadze, Ye. G., Vozzhennikov, V. M., Zvonkova, Z. V.,  
and Badzhadze, L. I.

TITLE: Electrical conductivity of chelate polymers

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 140, no. 5, 1961, 1093-1095

TEXT: The authors measured the electrical conductivity  $\sigma$  and the activation energy  $E$  of several chelate polymers to determine the dependence between their semiconductor properties and their atomic structure. These polymers were mostly synthesized by interaction of equimolecular aqueous solutions of metal acetates and alcoholic solutions of the corresponding tetrafunctional organic compounds. The substances obtained were amorphous, insoluble, and infusible. Their decomposition temperatures were above 250-350°C. More data will be published in the coming issues of the periodical "Vysokomolekulyarnyye soyedineniya". For measuring the electrical conductivity samples in tablet form were used: diameter 5-7 mm, X

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2

2

29120



S/020/61/140/005/016/022

B103/B110

Electrical conductivity of ...

$\sigma$  = up to  $10^{-13}$  ohm $^{-1}$ .cm $^{-1}$ . It changes with the temperature according to the exponential function  $\sigma = \sigma_0 \exp(-E/2kT)$ . The results are given in

Table 1. Copper-polychelates of structure I had the highest electrical conductivity. Their special electrical properties are in good agreement with the hypothesis on their network structure. The atoms of monovalent copper form linear bonds: S - Cu - S. X-ray studies showed that the distance between the Cu atoms next to each other -Cu-S-C-S-Cu-equals 5.8 Å. Radicals with  $\pi$  bonds of carbon increase the electrical conductivity of copper polymers. Coplanarity of the polymer chains necessary for the

conjugation of the  $\pi$  bonds of the N-C  atoms and phenylene rings, is due to the network structure. In polymers with structure II,  $\sigma$  decreases whereas E increases in the sequence Co, Zn, Ni. The four sulfur atoms are in the same plane as the metal atoms and the N-C  bonds. The Co-S bonds are tetrahedral. The electrical characteristics of 48 semiconductor

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29120  
S/020/61/140/CG5/C16/022  
B103/B110

Electrical conductivity of ...

polymers like those of inorganic semiconductors, widely depended on the short range order. There are 1 table and 9 references: 8 Soviet and 1 non-Soviet. The reference to English-language publication reads as follows: B. Long, P. Markey, P. G. Wheatley, Acta crystallogr., 7, 140 (1954).

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova (Moscow State University imeni M. V. Lomonosov).  
Fiziko-khimicheskiy institut im. L. Ya. Karpova (Physico-chemical Institute imeni L. Ya. Karpov)

SUBMITTED: May 31, 1961

Table 1. Electrical conductivity of chelate polymers.

Legend: (1)  $\sigma_{295}$  ( $\text{ohm}^{-1} \cdot \text{cm}^{-1}$ ); (2) same units as (1); (3) in ev; (4) for polychelates: of Ni with  $R = -(\text{CH}_2)_6-$  and  $n, n'-(\text{C}_6\text{H}_4)_2-$ ; (5) of zinc; (6) of cobalt; (7) for cadmium polychelates; (8) for all polychelates;

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43821

8/020/62/147/005/019/032  
B106/B186

15 8540  
AUTHORS: Terent'yev, A. P., Corresponding Member AS USSR, Rukhadze, Ye. G., Vozzhennikov, V. M., Zvonkova, Z. V., Oboladze, N. S., Mochalina, I. G.

TITLE: Electrical conductivity and activation energy of chelate compounds of the dithiocarbamates and thioamides of pyridine derivatives

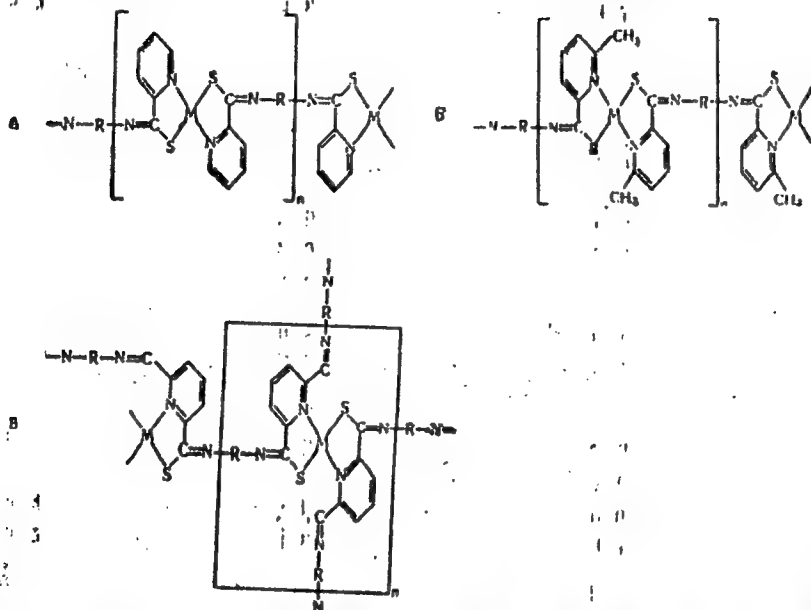
PERIODICAL: Akademiya nauk SSSR. Doklady, v. 147, no. 5, 1962, 1094-1097

TEXT: The temperature dependence of the electrical conductivity  $\sigma$  of chelate polymers of the following structures A, B, and C has been determined:

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Electrical conductivity and...

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B106/B186






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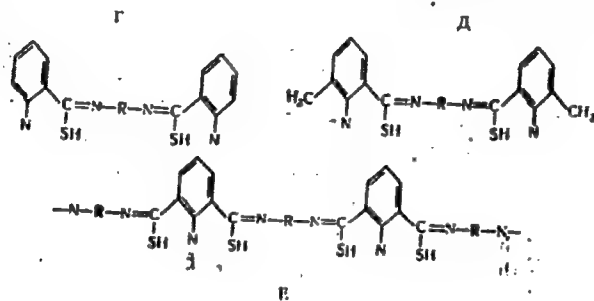
Electrical conductivity and...

8/020/62/147/005/019/032  
B106/B186

**B106/B186**

M = Cu, Co, Zn; R =  (1),  (2),  (3).  
For comparison, the compounds  $\text{Cu}(\text{H}_2\text{O})_2(\text{ClO}_4)_2$  and  $\text{Cu}(\text{H}_2\text{O})_2(\text{ClO}_4)_2 \cdot 2\text{H}_2\text{O}$  were also prepared.

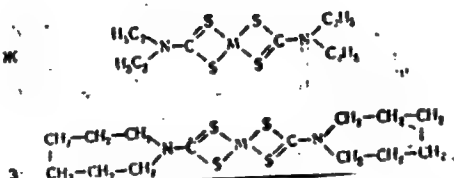
For comparison, the compounds Г, Д, and the polymer Е (initial products in the synthesis of the above chelate polymers), and the compounds Ж and З (M = Cu, Co, Zn) (monomers of polychelates investigated earlier (Ref. 2; V. M. Vozzhennikov et al, DAN, 143, 5 (1962)) have been studied analogously;



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Electrical conductivity and...

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Since the compounds investigated are insulators at room temperature, the values of the electrical conductivity have been determined between 330 and 600°K. The values of the activation energy  $E$  have been calculated from the temperature dependence of  $\sigma$  (ascent of the straight line in diagrams  $(\log \sigma, 1/T)$ ). Table 1 shows the results. In agreement with the data of Ref. 2, the electrical conductivity depends considerably on the nature of the metal ( $Zn < Cu > Ni > Co$ ). The stability of the complex compounds and the electron affinity of the metals  $M$  change in the same order. The fact that the nature of the radicals bound to nitrogen atoms in the compounds  $K$  and  $3$  has practically no effect on the values of  $\sigma$  and  $E$  shows that these two quantities are mainly determined by the nature of the chemical bonds and

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Electrical conductivity and...

S/O20/62/147/005/019/032  
B106/B186

not by the packing of molecules in the crystal. Activation energies between 1.2 and 1.6 ev were found for the 30 compounds with the grouping  $M...S-C-N<$  investigated in Ref. 2 and in the present paper. An activation energy of this order has also been found for  $CuSCN$ , the simplest semiconductor polymer with the grouping  $S-C-N-$ . There are 2 figures and 1 table.

ASSOCIATION: Fiziko-khimicheskiy institut im. L. Ya. Karpova (Physico-chemical Institute imeni L. Ya. Karpov); Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova (Moscow State University imeni M. V. Lomonosov)

SUBMITTED: June 22, 1962

Card 5/6

Electrical conductivity and...

S/020/62/147/005/019/032  
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Table 1. Legend: I structure; II radical; III metal; IV E, ev; \* the first values at  $T < 410^\circ\text{K}$ , the second at  $T > 410^\circ\text{K}$ .

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VOZZHENNIKOV, V.M.; ZVONKOVA, Z.V.; REKHADZE, Ye.G.; ZHDANOV, G.S.;  
GLUSHKOVA, V.P.

Electric conductivity and activation energy of some dithiooxamide,  
N-substituted dithiocarbamate, and thiocyanate (Cu, Co, Ni) polymers.  
Dokl. AN SSSR 143 no.5:1131-1134 Ap '62. (MIRA 15:4)

1. Fiziko-khimicheskiy institut im. L.Ya.Karpova. Predstavleno  
akademikom V.A.Karginym.

(Polymers—Electric properties) (Thiocyanates)  
(Organometallic compounds)



36915  
S/020/62/143/005/013/018  
B101/B110

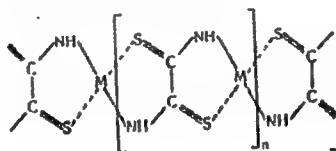
15.8340

AUTHORS: Vozzhennikov, V. M., Zvonkova, Z. V., Rukhadze, Ye. G.,  
Zhdanov, G. S., and Glushkova, V. P.

TITLE: Electrical conductivity and activation energy of some  
dithio oxamide-, N-substituted dithiocarbamate-, and  
thiocyanate (Cu, Co, Ni) polymers

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 143, no. 5, 1962,  
1131-1134

TEXT: The electrical conductivity,  $\sigma$ , and the activation energy, E, of  
the following polychelates were studied:



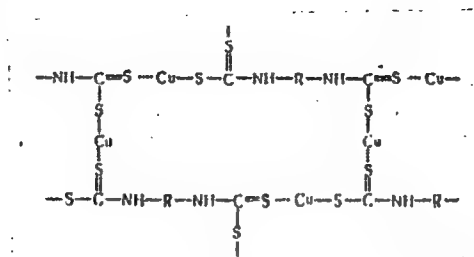
(I),

Card (1/5)

Electrical conductivity and ...

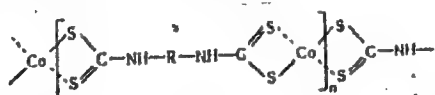
S/020/62/143/005/013/018  
B101/B110

M = Cu, Ni, or Co;



(II),

R = p-C<sub>6</sub>H<sub>4</sub>-; p,p-(C<sub>6</sub>H<sub>4</sub>)<sub>2</sub>-; (CH<sub>2</sub>)<sub>6</sub>; and



(III),

R = p-C<sub>6</sub>H<sub>4</sub>-; p,p-(C<sub>6</sub>H<sub>4</sub>)<sub>2</sub>-; (CH<sub>2</sub>)<sub>6</sub>; (CH<sub>2</sub>)<sub>2</sub>. The following was found:

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S/020/62/143/005/013/018  
B101/B110

Electrical conductivity and ...

Polymer	M, R	T, °K	$\sigma_{290^\circ K}$ ohm <sup>-1</sup> ·cm <sup>-1</sup>	$\sigma_0$ ohm <sup>-1</sup> ·cm <sup>-1</sup>	E, ev
I	Cu	290-350	$4 \cdot 10^{-8}$	$1 \cdot 10^4$	0.6
"	Ni	290-500	$2 \cdot 10^{-11}$	$7 \cdot 10^{-1}$	0.6
"	Co	400-500	$7 \cdot 10^{-16}$ *	$1 \cdot 10^{-3}$	0.7
II	P-C <sub>6</sub> H <sub>4</sub> -	290-425	$7 \cdot 10^{-11}$	1	0.42; 0.62 } **
"	P,P-(C <sub>6</sub> H <sub>4</sub> ) <sub>2</sub> -	290-450	$5 \cdot 10^{-13}$	$1 \cdot 10^{-3}$	0.36; 0.60 } **
"	(CH <sub>2</sub> ) <sub>6</sub>	310-380	$1 \cdot 10^{-13}$	$2 \cdot 10^{-1}$	0.72
III	P-C <sub>6</sub> H <sub>4</sub> -	370-460	$9 \cdot 10^{-12}$	$1 \cdot 10^{-3}$	0.58
"	P,P-(C <sub>6</sub> H <sub>4</sub> ) <sub>2</sub> -	380-460	$3.5 \cdot 10^{-12}$	$3 \cdot 10^{-3}$	0.62
"	(CH <sub>2</sub> ) <sub>6</sub>	400-460	$1.7 \cdot 10^{-12}$	$5 \cdot 10^{-3}$	0.76
"	(CH <sub>2</sub> ) <sub>2</sub>	400-460	$8 \cdot 10^{-13}$	$1 \cdot 10^{-3}$	0.74

Card 3/5

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B101/B110

Electrical conductivity and ...

\* extrapolated; \*\* first figure at  $T < 360^{\circ}\text{K}$ , second figure at  $T > 360^{\circ}\text{K}$ ; \*\*\*  $\sigma_{400^{\circ}\text{K}}$ . In the compounds II and III the higher  $\sigma$  and the lower E of the phenylene derivatives are explained by the effect of the  $\pi$  bonds which is reduced in the diphenylene group owing to the angle between the ring planes.  $\log \sigma$  is a linear function of  $1/T$ , the straight line has, however, a salient point at  $360^{\circ}\text{K}$  for compounds II. The susceptibility of compounds III is  $3.5 \mu\text{B}$ . Compounds with the bridge groups  $\text{S}=\text{C}=\text{N}-$  have semiconductor properties. Also  $\text{CuSCH}$  showed a salient point in the curve  $\log \sigma$  versus  $1/T$ : at the beginning,  $E_1 = 0.4 \text{ ev}$ , after a 2-hr heating at  $400^{\circ}\text{C}$ ,  $E_2 = 0.1 \text{ ev}$ . There are 4 figures and 1 table. The most important English-language reference is: R. M. Hurd, G. De La Mater et al., J. Am. Chem. Soc., 17, 4454 (1960).

ASSOCIATION: Fiziko-khimicheskiy institut im. L. Ya. Karpova  
(Physicochemical Institute imeni L. Ya. Karpov)

Card 4/5

Electrical conductivity and ...

S/020/62/143/005/013/018  
B101/B110

PRESENTED: December 2, 1961, by V. A. Kargin, Academician

SUBMITTED: November 30, 1961

Card 5/5

VOZZHENNIKOVA, Tamara Fedorovna; KISELEV, I.A., otv. red.;  
RODMAN, L.S., red.

[Introduction to the study of fossil peridian algae]  
Vvedenie v izuchenie iskopaemykh peridineevykh vodo-  
roslei. Moskva, Nauka, 1965. 155 p. (MIRA 18:9)

ALEKSEYEVA, R.Ye.; BETENTINA, O.A.; VOZZHENNIKOVA, T.F.; GRATSIANOVA, R.T.;  
DUBATOLOV, V.N.; YLKHIN, Ye.A.; ZAKHAROV, V.A.; IVANOVSKIY, A.B.;  
SIDYACHENKO, A.I.; KUL'KOV, N.P.; MYACHOVA, Ye.I.; GELT, A.M.;  
SAKS, V.N.; TESAKOV, Yu.I.; FURSENKO, A.V.; KHOMENTOVSKIY, V.V.;  
YUFEREV, O.V.

Corresponding Member of the Academy of Sciences of the U.S.S.R.  
Boris Sergeevich Sokolov; 1914 - ; on his 50th birthday. Geol.  
i. geofiz. no.8:140-147 '64 (MIRA 18:2)

VOZZHENNIKOVA, T.F.

New species of algae from mountain streams of Tajikistan  
(Algae novae e fluviis montanis Tadzhikistaniae). Bot.mat.  
Otd. spor. rast. 9:73-77 My '53. (MLRA 7:2)  
(Tajikistan--Algae) (Algae--Tajikistan)



VOZZHENNIKOVA, T.F.

Algae of the Katun' River and its tributaries in the region  
of Chermal health resort. Izv. Sib. otd. AN SSSR no.8:114-125  
'58. (MIRA 11:10)

1. Zapadno-Sibirskiy filial AN SSSR.  
(Chermal region--Algae)

VOZZHENNIKOVA, T.F.

Systematics of fossil peridiniids. Dokl. AN SSSR 139 no.6:1461-1462 Ag '61. (MIRA 14:8)

1. Institut geologii i geofiziki Sibirskogo otdeleniya Akademii nauk SSSR. Predstavleno akademikom Yu.A. Orlovym.  
(Flagellata, Fossil)

VOZZHINSKAYA, V.B.

Distribution of algae near the shores of western Kamchatka.  
Okeanologiya 5 no.2:348-353 '65. (MIRA 18:6)

1. Institut okeanologii AN SSSR.

VOZZHINSKAYA, V.B.

~~Macroepiphytes of Cystoseira in the Black Sea. Trudy Inst. okean.~~  
23:168-184 '57. (MIRA 11:3)  
(Black Sea--Algae) (Epiphytes)

VOZZHINSKAYA, V.B.

Distribution of algae in the littoral of the Grossavicha  
Bay (Sea of Japan). Bot. zhur. 49 no.5:712-714 My '64.  
(MIRA 17:8)

1. Institut okeanologii AN SSSR, Moskva.

VOZZHINSKAYA, V.B.

Distribution of marine algae along the open shore of eastern  
Sakhalin. Bot. zhur. 44 no.4:545-550 Ap '59. (MIRA 12:10)  
(Sakhalin--Algae)

ZINOVA, A.D., VOZZHINSKAYA, V.B.

Finding the red alga *Chordaria magellanica* Kylin in the  
northern part of the Pacific Ocean. Bot. mat. Otd. spor.  
rast. 13:117-118 '60. (MIRA 13:7)  
(Pacific Ocean--Algae)

VOZZHINSKAYA, V.B.

New algae hitherto unknown in Sakhalin. Bot. mat. Otd.  
spor. rast. 13:119-128 '60. (MIRA 13:7)  
(Sakhalin--Algae)



VOZZHINSKAYA, V.B.

Some endophytes found in the algae of Sakhalin. Bot. mat.  
Otd. spor. rast. 13:128-130 '60. (MIRA 13:7)  
(Sakhalin--Algae)

VOZZHINSKAYA, V.B.

Floating algae in the western part of the Pacific Ocean. Okeano-  
logiia 4 no.5:876-883 '64 (MIRA 18:1)

1. Institut okeanologii AN SSSR.

VOZZHINSKAYA, Y. B.

Occurrence of *Stachanovia flagellaris* A. Zin. (Phaeophyceae) in  
Sakhalin. Bot. zhur. 43 no. 3: 428-430 Mr. '58. (MIRA 11:5)

1. Institut okeanologii AN SSSR, Moskva.  
(Sakhalin--Algae)

VOZZHINSKAYA, V. B.

Dissertation defended in the Botanical Institute imeni V. L. Komarov  
for the academic degree of Candidate of Biological Sciences:

"Benthic Macrophytes of Ocean Littorals of Sakhalin Island."

Vestnik Akad Nauk No. 4, 1963, pp. 119-145

SECHAPOVA, T.F.; VOZZHINSKAYA, V.B.

Littoral algae at the western shore of Sakhalin. Trudy Inst. okean.  
34:123-146 '60. (MIRA 13:10)  
(Sakhalin--Algae)

VOZZHINSKAYA, V.B.

Macrophytes of the shore waters of Sakhalin. Trudy Inst. okean. 69:  
330-440 '64. (MIRA 17:9)

BC

1ST AND 2ND MODES

PROCESSES AND PROPERTIES MODE

10-T-2

Cooking properties of Matsudom boghead. Z.  
YOSHIMIZAKA (Kihai. Trans. Topl., 1932, 3, 165-160).  
—Treatment with 3% NaOH and 15% HCl is necessary;  
the ash content is thereby lowered from 10.8 to 3.6%.  
Ch. Ara.

COMMON ELEMENTS

OPEN

MATERIALS MODE

6-2

ASTM-SLA METALLURGICAL LITERATURE CLASSIFICATION

ALUMINUM

1000 2000 3000 4000 5000 6000 7000 8000 9000

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

21

CO

The coking properties of Matapan boghead. Z. Vozzhinskaya. *Khim. Tverdogo Topliva* 3, 155-60(1932). Matapan boghead produced a very unsatisfactory coke, but after treatment with 2% NaOH and 15% HCl it gave a very strong coke. This treatment lowered the ash content from 10.8 to 3.6%. Bred. boghead ash as well as ash of different compn. was added to extd. boghead, which was then coked. In all cases a perfectly satisfactory coke was obtained. The introduction of fatty acids did not change the properties of the treated and the untreated coal, coke from the latter remaining unsatisfactory and coke from the former being satisfactory.

A. A. Bochtlingk

ASAC ELEMENTS

COCKING AND PREPARATION INDEX

1ST AND 2ND GROUPS

3RD AND 4TH GROUPS

5TH AND 6TH GROUPS

7TH AND 8TH GROUPS

9TH AND 10TH GROUPS

11TH AND 12TH GROUPS

13TH AND 14TH GROUPS

15TH AND 16TH GROUPS

17TH AND 18TH GROUPS

19TH AND 20TH GROUPS

21ST AND 22ND GROUPS

23RD AND 24TH GROUPS

25TH AND 26TH GROUPS

27TH AND 28TH GROUPS

29TH AND 30TH GROUPS

31ST AND 32ND GROUPS

33RD AND 34TH GROUPS

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37TH AND 38TH GROUPS

39TH AND 40TH GROUPS

41ST AND 42ND GROUPS

43RD AND 44TH GROUPS

45TH AND 46TH GROUPS

47TH AND 48TH GROUPS

49TH AND 50TH GROUPS

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105TH AND 106TH GROUPS

107TH AND 108TH GROUPS

109TH AND 110TH GROUPS

111TH AND 112TH GROUPS

113TH AND 114TH GROUPS

115TH AND 116TH GROUPS

117TH AND 118TH GROUPS

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121ST AND 122ND GROUPS

123RD AND 124TH GROUPS

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323RD AND 324TH GROUPS

325TH AND 326TH GROUPS

327TH AND 328TH GROUPS

329TH AND 330TH GROUPS

331ST AND 332ND GROUPS

333RD AND 334TH GROUPS

335TH AND 336TH GROUPS

337TH AND 338TH GROUPS

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343RD AND 344TH GROUPS

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353RD AND 354TH GROUPS

355TH AND 356TH GROUPS

357TH AND 358TH GROUPS

359TH AND 360TH GROUPS

361ST AND 362ND GROUPS

363RD AND 364TH GROUPS

365TH AND 366TH GROUPS

367TH AND 368TH GROUPS

369TH AND 370TH GROUPS

371ST AND 372ND GROUPS

373RD AND 374TH GROUPS

375TH AND 376TH GROUPS

377TH AND 378TH GROUPS

379TH AND 380TH GROUPS

381ST AND 382ND GROUPS

383RD AND 384TH GROUPS

385TH AND 386TH GROUPS

387TH AND 388TH GROUPS

389TH AND 390TH GROUPS

391ST AND 392ND GROUPS

393RD AND 394TH GROUPS

395TH AND 396TH GROUPS

397TH AND 398TH GROUPS

399TH AND 400TH GROUPS

401ST AND 402ND GROUPS

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991ST AND 992ND GROUPS

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995TH AND 996TH GROUPS

997TH AND 998TH GROUPS

999TH AND 1000TH GROUPS



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*ca*

Investigating the light neutral oil from the tar of the Zorin bog head. Z. I. Vozzhinskaya, M. V. Pronina and V. S. Vucotzov. *Khim. Tvergo Topiva* 5, 243 51 (1934).—Low-temp. carbonization of the coal yielded: tar 26.22, H<sub>2</sub>O 6.96, semi-coke 44.97 and gas 11.16%. The tar m. 31° and had  $d_4^{20}$  0.873. It yielded 23.6% (on the coal) of light oil contg. 3.0% acidic substances, 0.2% carboxylic acids and 1.0% org. bases; its  $d_4^{20}$  of 0.7825 indicates a paraffin oil. This oil was distd. into 10° cuts. The light oil is composed mainly of aliphatic hydrocarbons, represented by satd. compds., as well as by unsatd. compds. with one or with a plurality of double bonds. The aromatic compds. were present only in insignificant amts. Among the paraffin hydrocarbons were traced the series from C<sub>11</sub>H<sub>24</sub> to C<sub>17</sub>H<sub>36</sub>; the unsatd. compds. were represented by C<sub>11</sub>H<sub>22</sub> to C<sub>17</sub>H<sub>34</sub>. A. A. Buchilinsk

ASB-5LA METALLURGICAL LITERATURE CLASSIFICATION

SECTION #	SECTION NAME	SECTION #	SECTION NAME
1	IRON AND STEEL	11	COAL
2	STEEL	12	COKE
3	CAST IRON	13	COAL TAR
4	IRON	14	COAL GAS
5	STEEL	15	COAL OIL
6	CAST IRON	16	COAL CHAR
7	IRON	17	COAL DUST
8	STEEL	18	COAL LUMP
9	CAST IRON	19	COAL PULVER
10	IRON	20	COAL SLAG

1ST AND 2ND CROSSL

PROCESSES AND PROPERTIES INDEX

27

Investigating the light fractions from the tar of Kash-  
pira shale. Z. I. Vozzhinskaya. *Khim. Tverdogo Top-  
liva* 6, 250-7(1935).--In accordance with the investiga-  
tion described in the report, which discloses the presence  
of a considerable amt. of aromatic hydrocarbons, the shale  
was formed from algae as well as from higher plants. The  
light fractions of the shale tar contain in addn. to thio-  
phenes also other S and oxygen-S compds., the physico-  
action of which is still not known. Therefore in the  
prepn. of medicinal compds., such as thiophene oil, the  
above substances must be removed either by condensation  
with  $\text{CH}_2\text{O}$  or with glucose, or by means of extr. with a  
 $\text{HCl}$  soln. of  $\text{FeCl}_3$ . A. A. Buchtlinsk

ASH-SLA METALLURGICAL LITERATURE CLASSIFICATION

62341 604107

F 5413. VISCOSITY OF LUBRICATING OILS AT LOW TEMPERATURES. 4herdeva, LG, Vozzinskaya, G. and Fedoseeva, O. (Symp. Visc. Liquids and Colloids, acad. sci. u.s.s.r., 1944, 2, 128-140; J. inst. petrol. 1945, 11, 373A.) Viscosity measurements were carried out in a capillary type viscometer (under a pressure of 20 mm. Hg) down to -35 C. Comparisons were made between lubes derived from various u.s.s.r. crudes (surakhani, gozni, iskin, karachukhuri) and synthetic lubricating oils (no indication is given as to the source or mode of preparation of these latter). The flow characteristics, at low temperatures, of the synthetic oils are much superior to those of the natural ones. Thus, for samples of natural and synthetic lubes having almost the same viscosity at 100 C. and the viscosity at temperatures below 0 C. (but above the setting point of either oil) is considerably less in the case of the synthetic oil. That this is not due solely to the presence of wax is shown by the addition of 1% of paraffin to a synthetic oil. The resultant mixture has a cloud point of 0 C. as against -20 C. for a natural oil of the same viscosity, VI and setting

point, yet, despite this, its viscosity at low temperatures (below 0 C.) is considerably less than that of the natural oil. Examination of data shows that an increase of 10-12 units in the VI for a synthetic oil has the result of having its viscosity at -30 C. Synthetic oils show a linear relationship between the logarithm of the viscosity and the temperature within the temperature range 0 to -35 C.; in the case of natural oils this relationship loses its linear character at about -15 C. The addition of 2% of paraffin to a synthetic oil causes a break at about this temperature. In the case of two oils with the same VI and viscosity at 100 C. that containing aromatic rings has the greater viscosity at negative temperatures. It is thus shown that, for oils of different origin, the VI, even if coupled with the setting point, gives no indication of the viscosity/temperature relationships below about 0 C., and that the chemical nature of the oil components is the factor determining low temperature flow. The results are presented in tables and graphs.

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Unclass



VRABAC, M.

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Affiliation: Veterinary Station (Veterinarska stanica), Vinkovci

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